MARSHALL STAR

Marshall Space Flight Center **Feb. 10, 2000**

"We bring people to space — We bring space to people"

Director outlines Marshall's budget

See NASA budget story on page 3

by Debra Valine

Marshall Center Director Art Stephenson outlined Marshall's portion of the requested NASA budget at an all-hands meeting Monday in Morris Auditorium. His briefing followed NASA Administrator Dan Goldin's overview of the NASA budget.

Marshall's budget projection is up from $2.3 billion for fiscal year 2000 to $3 billion by fiscal year 2004, Stephenson said. Marshall staffing is expected to increase from its current civil service strength of 2,530 to 2,758 in fiscal year 2001, with an increase in support contractor staffing from 2,749 in fiscal year 1998 to 3,004 in 2001.

*See **Marshall** on page 3*

Educator Resource Center opens Friday at University of Arkansas

by George Hayward

A new NASA Educator Resource Center opening Friday will give Arkansans and neighboring states access to NASA expertise and educational materials in science, math and technology.

The new center is located at the University of Arkansas in Fayetteville. The Marshall Center selected the university through a competitive application process that resulted in a two-year renewable agreement between NASA and the university.

The new center is an effort by NASA and the Marshall Center to expand their longstanding partnership with the education community. NASA's national network of Educator Resource Centers provides educators access to NASA materials such as lesson plans, videotapes, compact discs, audio cassettes, reference books, activities, posters and lithographs. Each Educator Resource Center is sponsored by a NASA facility under a regional system.

The Marshall Center is responsible for centers in six states: Alabama, Arkansas, Iowa, Louisiana, Missouri and Tennessee. On average, each center serves 7,000 to 10,000 people each year and delivers 8,000 to 12,000 publications and other education items per year.

All educators — from public and private school teachers to parents who home-school their children — may use these resources.

The writer, a contractor employed by ASRI, supports the Media Relations Department.

NASA/Industry team completes first component for experimental X-34 composite oxygen tank

by Martin Burkey

The first major component of an experimental composite liquid oxygen tank for NASA's X-34 rocket plane has completed the curing process in an oversized oven at Marshall.

The composite tank is one of 10 supplemental advanced technology experiments planned for the later stages of the X-34 program. It will be the largest composite liquid oxygen tank made and the first to fly on a launch vehicle.

By replacing structures usually made of metal with lightweight composite materials, combined with other technology advancements, NASA hopes to lower the weight of future launch vehicles and, as a result, cut the cost for launching payloads into orbit from $10,000 per pound today to $1,000.

Two tanks are being assembled and tested at the Marshall Center under a 50-50 cooperative agreement between Marshall and Lockheed Martin Michoud Space Systems in New Orleans. The first tank, now being built, will be used for ground tests. The second will be used for flight tests. Lockheed designed the tanks and will assemble and test them at Marshall with assistance from NASA engineers and technicians. NASA's share of the work is funded by the Advanced Space Transportation Program and managed by

NASA photo by Bill McMahon

The experimental liquid oxygen tank is prepared for the bake-out process at Marshall.

*See **X-34** on page 4*

"Safe Workers are Happier Workers"
— Safety slogan submitted by
Barbara Gulbis, MP51

Black History Month Events

Remaining events scheduled for Black History Month include:

Feb. 17: **Science Fair for grades 6-8, 8 a.m.-4 p.m. Bldg. 4203, cafeteria**
Feb. 18 and 22: **Jazz Café, 11:30 a.m.-12:30 p.m., Bldg. 4203, cafeteria**
Feb. 23: **Closing Program, 9 -10 a.m. Morris Auditorium**

Did you know?

In celebration of Black History in 2000, Carter G. Woodson is being recognized as founder of Negro History Week.

This observance is marked each February because of the February birthdays of Frederick Douglas and Abraham Lincoln, for whom Douglas helped recruit black troops in the Civil War. Woodson, who was known as the "Father of Negro History," influenced both blacks and whites to re-examine black history.

A historian, Woodson organized the first Negro History Week celebration in the second week of February in 1926. Negro History Week grew to become Black History Month.

Woodson's philosophy was that blacks must contribute to the good of the race, to the good of his or her country and the honor and glory of God.

Photo by Dennis Olive, NASA/Marshall Space Flight Center

Missouri Torrence, author of "Dulcina DeBerry: Door Opener," a book about the first African-American library in Madison County, prepares to autograph a book for Alice Sams during a lunch and learn program Tuesday as part of Marshall's Black History Month activities. Observing are Stan McCall, seated, and Jim Young.

New process allows dual career path promotions

by Debra Valine

A process was recently approved at Marshall that provides a clear promotion route to the GS-14 and GS-15 level for Marshall engineers and scientists without requiring them to become supervisors.

"The Dual Career Path will be used for promotions this year, although the exact number has not been decided," said Jim Kennedy, director of the Engineering Directorate.

The new process had its beginning during the Marshall reorganization last spring. The Center Cross-Cutting team commissioned a Process Improvement team of representatives from all organizations across Marshall to develop the process.

"In July, we presented our plan to the employees through 'Inside Marshall' on the Web," said Chip Jones of the Materials Processes and Manufacturing Department. Jones co-chaired the committee with Kevin Plank of the Human Resources Department. "We received a lot of comments, which we used to make changes to the process."

Guidelines for the process are outlined in Marshall Procedures and Guidelines 3300.1, part of the Marshall Document Library.

"The Center's Cross-Cutting team wanted to develop this process to encourage technical excellence and achievement," Jones said. "It provides a means for people who really want to carry their careers forward technically without necessarily becoming managers."

"This process achieves that goal, and we believe it will be a valuable addition to the options now available in the career development of our employees," Plank added.

Jones advised employees interested in being promoted along the technical career path to concentrate on technical achievements. "Use the Individual Development Plan (IDP)," he said. "It's a resource, administered by the Employee and Organizational Development Department, allowing individuals and supervisors to plan educational and other training and assignments. It helps prepare your career for advancement in the area you choose."

The directorates will notify employees of opportunities for promotion along the dual career path. Employees will submit a nomination form — Marshall Form 4382 — to the head of the employee's directorate or office. Nominations will go to an evaluation committee, appointed by the director of each directorate or office.

The Human Resources Department plans to initiate a study later this year relating to potential career growth opportunities for the Center's non-technical employees.

For more information, visit the Web site at:
http://ntf-1.msfc.nasa.gov/dcp.nsf
or call Kevin Plank at 961-0157 or e-mail:
kevin.plank@msfc.nasa.gov

The writer, a contractor employed by ASRI, is the Marshall Star editor.

NASA requests increase in fiscal 2001 budget

by Debra Valine

If Congress approves NASA's budget request for the fiscal year 2001 budget, it will be the first time in seven years for a NASA budget increase.

Figures announced by NASA Administrator Dan Goldin at a news conference on Monday show the overall budget growing by $435 million in fiscal 2001. If approved, by 2005 the budget will be $2 billion higher than this year's budget. Goldin said he is cautiously optimistic of approval.

Along with the increase in funding comes an increase in researching and developing technologies, hiring and improvements to facilities.

"The numbers do fuel the vision," Goldin said. "The proposed budget will not only help revolutionize the space program, but it also will help develop the technologies essential to America's future. With this budget, we will take on revolutionary new missions, like Living with a Star and the Small Aircraft Transportation System. We will take steps toward a permanent human presence in space. And we will build on our exciting missions to understand our planet, our solar system and our universe."

The increase in budget means NASA will decrease involvement in operations and increase its investment in cutting-edge research and development.

"The best indicator of this change is how we balance our human space flight with our science and aerospace technology investments," Goldin said. "Over the past decade, our science and aerospace technology investment went from 31 to 41 percent of our budget. In the next five years, we will raise our investment to 51 percent."

NASA Administrator Dan Goldin

"However, we will never compromise safety," Goldin said. "It's our No. 1 priority."

The Shuttle safety program will jump from $600 million to $2.1 billion over the next six-year period. "This allows us to fly the Shuttle for at least the next decade and roughly double its safety," Goldin said. Along with the upgrade to the Shuttle fleet, NASA plans to invest $6 billion over the 2000 to 2005 period in the next generation of reusable launch vehicles.

To make science and technology dreams come true, Goldin said NASA must make incredible leaps in research and development. Three key interrelated technologies will take NASA where it wants to go: biotechnology, nanotechnology and information technology.

"These new technologies will monitor the health and well-being of our spacecraft and our astronauts, allow our systems to perform many tasks autonomously, and allow systems to evolve and perform new and different functions."

To do these things, NASA will need to recruit more talented people. "For the first time in almost a decade, we intend to hire close to 2,000 new employees in the next two years," Goldin said. "That's a gain of almost 550 after expected attrition. To reduce stress levels, improve our skill mix and address the high number of imminent retirements, we are investing $600 million over five years for personnel and facilities. This will strengthen our workforce and make our facilities safer."

Goldin said NASA also will augment personnel strengths by strengthening strategic partnerships with industry and academia. "We are pursuing new links with research-focused government agencies, high tech industry, progressive aerospace companies and, perhaps most importantly, academia."

The writer, a contractor employed by ASRI, is the Marshall Star editor.

Marshall

Continued from page 1

"This budget illustrates the increased confidence being placed in Marshall," said Stephenson.

"NASA's priorities are one, Shuttle safety; two, launch the International Space Station into orbit; and three, low cost access to space. Marshall has a key role in this."

Marshall can expect big increases for its top two mission areas, Stephenson said. Advanced Space Transportation will see a 367 percent increase in the next five years — from $321 million in fiscal 2000 to $1,498 million in fiscal 2005. Microgravity Research and Space Product Development is expecting an increase of 39 percent.

Other significant budget request points include:

- Funding for Marshall Space Science will remain about the same over the next five years;
- Earth Science funding will increase 10 percent;
- Funding for second generation space vehicles will double;
- Funding for third generation space vehicles will increase 20 percent; and
- Alternate access to Space Station has been added.

Along with the increase in money for programs, Marshall will hire new people and increase training opportunities for current employees.

"The civil service downsizing is at an end," Stephenson said. "We will hire about 228 people over the next two years. This is exciting. This is our 'go to' number. With our mission in space transportation, this is essential. I want 50 percent of the new hires to be fresh out of college.

"I think the future is bright and we can look forward to exciting times at Marshall," Stephenson said.

The writer, a contractor employed by ASRI, is the Marshall Star editor.

Marshall investigates new turbomachinery technology

Marshall engineers recently completed a series of tests on a ceramic matrix composite turbine that could lead to improved turbomachinery in rocket engines.

In a typical rocket engine, the turbine — a metallic disk with separately attached blades — provides power to the pumps that pressurize the propellants. The faster the turbine spins, the more power it transmits to the pumps.

The blades for the ceramic matrix composite turbine are machined directly into the material, making a bladed disk — called a blisk. Ceramic blisks can withstand much higher temperatures than metal disks and are rugged enough to tolerate damage, such as small cracks.

The blisks Marshall used in testing are 7.6 inches in diameter and about 3/4 inch thick and were manufactured by Allied Signal Composites Inc. of Newark, Del. They're composed of woven carbon fibers with a silicon carbide matrix, similar in construction to multiple layers of cloth filled with an extremely strong starch.

The blisks were tested at Marshall in a turbopump, a turbine powered pump, at 25,000 revolutions per minute — about 10 times the average rpm of a car engine. Dozens of tests were conducted over the last few months with an average test duration of about six minutes.

As a result of these tests, the blades were loaded and unloaded at a very high speed about 6 million times. The tests demonstrated the durability of the blisks and the ability to mechanically join a ceramic blisk to a metallic shaft. The blisks could increase rocket engine performance and efficiency and may be considered for reusable launch vehicles.

Key Personnel Announcements

Ron Koczor has been named associate director for science and technology of Marshall's Science Directorate.

Koczor served for two years with the same title in the Space Science Laboratory before the Center reorganization. Prior to that he served as chief engineer for Advanced Systems and Payloads in the office of the Director of Science and Engineering.

Ron Koczor

He joined NASA in 1989 as deputy chief of the Earth Science and Applications Department in Space Sciences.

In 1993 he moved to the Science and Engineering director's staff working as an interface between the Science and Engineering and Program Development Directorates. He returned to the Space Sciences Laboratory in 1997, where he served as the laboratory process owner for new business development, proposal review and approval and export control processes.

Prior to 1989, Koczor worked for 21 years in the electro-optical systems department at ITT Aerospace Optical Division, in Fort Wayne, Ind. He served as a remote sensing instrument designer in the areas of infrared and visible optical systems and thermal systems engineering for instruments flying on National Oceanographic and Atmospheric Administration and international weather satellites. When he left ITT, he was manager of the Electro-Optical Systems Department.

X-34

Continued from page 1

the Pathfinder Project Office, both part of the Marshall Center's Space Transportation Directorate.

Orbital Sciences Corp. of Dulles, Va., is building three of the experimental rocket planes under contract to the Marshall Center, NASA's Lead Center for Space Transportation Systems Development. The composite tank will be tested in the third X-34, while the first two X-34s to fly will use conventional aluminum tanks.

The procedure for curing the composite cylinder called for it to be heated at 350 degrees F for approximately 4 hours at a pressure of 92 pounds per square inch in a giant oven, known as an autoclave. The cylinder consists of layers — 18 plies of carbon cloth at its thinnest point and as many as 80 at its thickest. Each ply was saturated with epoxy resin that hardened in the autoclave.

Composites will be used for the tank's major structural components. The components include the main barrel section, two domed end pieces and internal domes designed to prevent liquid oxygen from abruptly shifting in flight and altering the flight characteristics of the X-34.

Composites are finding increasing use in the framework and skin of vehicles ranging from cars to jet fighters. But they have never been used outside the laboratory to contain supercold liquid oxygen.

In addition to the composite tank, the other supplemental experiments planned are related to either thermal protection systems or on-board vehicle health monitoring systems.

The experimental tank passed a systems requirements review in November and its preliminary design review Dec. 10. The composite cylinder completed bakeout on Dec. 16. Manufacturing of the first barrel section began in early December. Dome fabrication will begin soon. The completed tank will be pressure- and temperature-tested between late May and early August.

The writer, a contractor employed by ASRI, supports the Media Relations Department.

Personnel moves at Headquarters

Goldin names Venneri to head Merged Technology, Aero-Space Office; new chief engineer appointed

NASA Administrator Dan Goldin announced Monday that the Agency would merge the chief technologist's office with the Office of Aero-Space Technology to better focus the Agency's strategy for maintaining its long-term technology base.

Chief Technologist Samuel Venneri will retain that position while becoming associate administrator for Aero-Space Technology. He will succeed Lt. Gen. Spence (Sam) Armstrong, USAF (Ret.), who will become senior adviser to the administrator.

Armstrong will spearhead a new initiative that will allow NASA to create new synergies with universities, industry and other scientific and technical agencies. He will work with academia and industry — both aerospace and non-aerospace — to identify new opportunities for NASA partnerships. He also will coordinate NASA's plans with the Department of Defense, Federal Aviation Administration and other agencies to ensure that NASA's activities are integrated with other agencies' and that NASA establishes government-wide partnerships where appropriate.

Goldin also announced the following personnel appointments:

• **W. Brian Keegan** has been appointed chief engineer.

• **Orlando Figueroa** has been appointed deputy chief engineer for Systems Engineering.

• **Dr. Mary Cleave** has been appointed deputy associate administrator (Advanced Planning) for the Office of Earth Science.

In the combined position, Venneri will be the administrator's principal adviser on NASA-wide technology issues. Under Venneri, the Office of Aero-Space Technology will be charged with developing integrated, long-term, innovative NASA-level technology for aeronautics and space.

Venneri also will be responsible for developing new commercial partnerships that exploit technology breakthroughs, and for establishing and maintaining technology core competencies at the NASA Centers.

Armstrong, who has headed the Office of Aero-Space Technology since May 1998, was previously associate administrator for Human Resources and Education. He was responsible for developing NASA's human resources strategic plan and for furthering NASA's emphasis on national education goals.

Keegan comes to NASA Headquarters from the Goddard Space Flight Center, Md., where he has been the director of Applied Engineering and Technology since 1997. He succeeds Daniel R. Mulville, who recently accepted the position of associate deputy administrator.

The chief engineer reports directly to the administrator and is responsible for overall review of the technical readiness and execution of all NASA programs. The chief engineer also provides an integrated focus for agency-wide engineering policies, standards and practices.

In the newly created position of deputy chief engineer for Systems Engineering, Figueroa will be the senior official responsible for focusing and defining the agency's system engineering capabilities. Figueroa will benchmark other systems engineering organizations and develop plans for continuous improvement in NASA systems engineering.

In her new position, Cleave will work with other government agencies and the scientific community to shape the next generation Earth Science program. Her primary responsibility will be developing the Earth Science Enterprise's advanced science, technology and applications plans and priorities. She came to NASA Headquarters from the Goddard Space Flight Center to be the Earth Science representative to the chief scientist.

Retiree's Association to hold series of four fireside chats

by Bob Jaques

The Marshall Retiree's Association, in conjunction with the von Braun Celebration of the Arts and Sciences, will hold a series of four fireside chats beginning Feb. 17, reminiscing about space exploration.

The series, "Reminiscence of Space Exploration History," is divided into four topics to be presented monthly through May, in the Exhibit Hall at the University of Alabama in Huntsville (UAH) beginning at 7 p.m. The chats are free and open to the public.

A panel and moderator at each chat will reminisce about their experiences with the U.S. Army and the Marshall Center during the exciting years of space exploration development.

The Feb. 17 chat, "Huntsville — Before and After the Rocketeers Came (1945 to early 1950's)," will focus on the transition from Huntsville's cotton-based economy to becoming an important rocket development center. It will include the arrival of Dr. Wernher von Braun and his team of German rocket experts.

"The Army Years - 1950-1960" will be presented March 16; "The Lunar Program - 1960-1970" on April 27; and "Space Shuttle & Beyond - 1970-2000 and the Future" on May 18.

The Marshall Center, U.S. Army and the UAH are sponsoring the series of fireside chats.

The writer, a contractor employed by ASRI, is a historian in the Internal Relations and Communications Department.

Photos by Emmett Given, NASA/Marshall Space Flight Center

"Mister Safety" made his debut at the VPP Rally in Morris Auditorium.

OSHA Voluntary Protection Plan

The Voluntary Protection Program (VPP) Rally held Feb. 3 in Morris Auditorium acquainted employees with the basics of Marshall's Safety Program. VPP is designed to encourage employees to volunteer to participate in a program that ensures a safe and healthful workplace.

Kathy Lundy, left, gets free magnets and booklets from "Mister Safety."

Marshall employees asked to submit TIPs proposals

Proposals are being accepted for projects to be funded by the Technology Investment Projects (TIPs) Program.

TIPs, managed by the Technology Transfer Department, provides support for in-house new and emerging technologies. To be selected, projects must show a high commercialization potential.

Participation in TIPs is open to all civil servants whose projects meet the program criteria.

Proposals should address well-defined activities linked to Marshall's roles and missions, with a goal of accelerating commercialization of the technology.

Projects should be one-year efforts, and will be required to obligate and fully cost all provided funding by the end of the fiscal year.

Proposals should be submitted to Susan Whitfield, TIPs program coordinator. Selections will be made according to selection guidelines. Program guidelines, details and instructions for submission are on the Web at: http://techtran.msfc.nasa.gov/techtips.html

Marshall Association inducts new officers for FY 2000

The Marshall Association recently inducted new officers for 2000.

Those officers are Charles Scales (OS01), president; Jim Frees (LS01), vice president for Programs; Danny Hightower (CD10), vice president for Communications; and Efrem Hanson (PS40), secretary/treasurer.

"The association will focus on increasing membership and providing interesting programs for the new year," Scales said. A home page is being developed, and membership cards will be provided soon for members, he said.

The Marshall Association, formerly known as the Marshall Management Association, is an organization that provides an open, creative and stimulating forum for the exchange of ideas and information. One of its major activities is the sponsorship of two scholarships for dependents of Marshall civil service employees.

Membership in the association is open to all current and former Marshall civil service employees. Membership dues are $25 per year and should be sent to Hanson, PS40, or to any current officer.

Job Opportunity

AST, Experimental Facilities Development, GS-801-14, Center Operations Directorate, Facilities Engineering Department. Closes Feb. 17.

Alabama, Tennessee students star in national TV series produced by Marshall to promote math, science

by Sherrie Super

Thirty-four students from Alabama and Tennessee were not yet born when humans first walked on the Moon, fueling national interest in math and science. But this month, a nationwide audience of almost 100,000 educators and five million students will watch these students play their own roles in illustrating how math, science and technology help people reach for the stars.

The students, eighth graders at Talladega County Central High School in Talladega, Ala., and fifth graders at Prescott Central Middle School in Cookeville, Tenn., are starring in a segment of a NASA-produced television program titled "Proportionality: the X-Plane Generation" that will air on 75 PBS member stations.

The 30-minute program — part of an instructional series called "NASA CONNECT" — will air Feb. 17. In Alabama, it will air over Alabama Public Television at 12:30 p.m., and over the ETV system in Huntsville City Schools at 10:30 a.m. In Tennessee, airtime will be 11 a.m. on WCTE-Cookesville and on WDCN-Nashville.

During the show, students discover how to use a scale model as an engineering tool. The program on proportionality features NASA's X-33 experimental aircraft and was produced by the Marshall Center. Marshall manages the X-vehicle program for NASA. NASA's X-33, X-34 and X-37 projects are designed to demonstrate technologies and operations aimed at lowering launch costs from $10,000 per pound to $1,000 per pound.

Photo by Emmett Given, NASA/Marshall Space Flight Center

An undergraduate volunteer, from the University of Tennessee in Knoxville, center, helps fifth-graders at Prescott Central Middle School in Cookeville, Tenn., build a scale model of NASA's X-33 experimental airplane.

"We're pleased to be associated with NASA CONNECT as a partner in sharing real science with our young people throughout the nation," said Jim Pruitt, manager of Marshall's Education Programs Department. "It's an excellent way to prepare students to make their dreams become a reality."

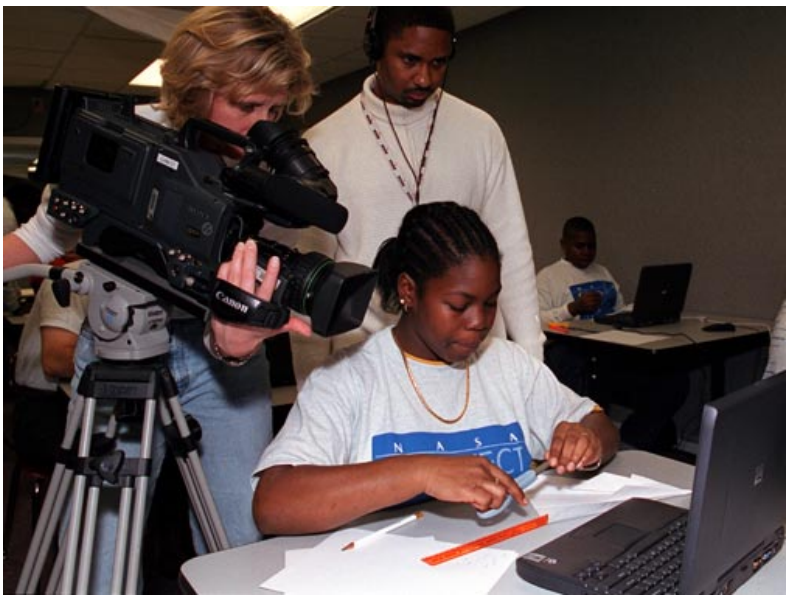

Photo by Doug Stoffer, NASA/Marshall Space Flight Center

Sarah Milligan, left, and Jonathan Brumby from Marshall TV film a student at Talladega County Central High School in Talladega, Ala. The student, an eighth-grader is learning how to use a scale model as an engineering tool.

The segment starring Talladega students was filmed Dec. 20-21, 1999, while the segment starring Cookeville students was filmed Jan. 5.

"The kids were thrilled," said Wilma Guthrie, the Central High science teacher who led the effort at Talladega. "The idea that our school was asked to participate in a national program was so energizing for the kids and for the teachers."

The episode of NASA CONNECT produced by Marshall focuses on ratios, proportion, scaling, measurement and systematic investigation. It also features NASA researchers and other professionals who describe the scientific concepts, discuss how NASA's X-33 is being tested to make space travel cheaper and more reliable, and show how proportionality and ratios are used to make small-scale versions of spacecraft.

The award-winning NASA CONNECT is designed to enhance the teaching of math, science and technology in grades four through eight. The series, in its third year of production, is produced by the NASA Langley Research Center's Office of Education in Hampton, Va. More than 7,200 schools worldwide subscribe to the series.

The writer, a contractor employed by ASRI, supports the Media Relations Department.

Employee Ads

Miscellaneous

★ Four tickets to Blue's Clue Live. Wednesday, Feb. 16, 10:30 a.m. show. $25 each. 837-3562
★ Signal-amplifying antenna, $20; learning the piano kit, $40; sky-blue folding card table w/4 chairs, $40. 722-9483
★ Merry tiller w/furrow attachment; 5HP, garage stowed, $100. 881-3797
★ Rosenthal china, 12 place settings, Corinth pattern, plus 5 serving pieces, $2,500. 881-6077
★ Sony monitor w/cables, 20", $225; NEC monitor, 15", $55. 230-0068
★ 1990 Mastercraft Tristar 190; open bow, 351 engine; 285hp w/trailer, barefoot training boom, cover, $13,900.
★ Computer CDs: Bass Tournament USA, $6; Total Home Deluxe, $12; various SNES games, $6 - $10 each. 533-5942
★ Boat, Necky Spike sit-on-top; chairback, thigh braces, paddle included, $500. 859-5475
★ Sony PA300 19" Trinitron computer monitor, 8 months old, $400; Infinity 120-watt powered subwoofer, 6 months old. $400. 527-5042
★ Quicken TurboTax software, $10; toddler bed, no mattress, $20; wind-up infant swing, $20. 828-9651
★ Snapper riding lawn mower, 30" cut, rear engine, needs some work, $350. 852-0707
★ John Deere R72 rear engine lawn mower w/ complete service manual, approx. 10 years old, $500. 852-3298
★ Solid oak roll-top desk, 56"x30"dx49"h, $650. 851-0871
★ Violins, German, each w/case and bow, several sizes available. 650-4952/464-5819
★ Firewood, oak and hickory, needs splitting, $15 per pickup load, you haul. 880-2290

Vehicles

★ 1997 Mitsubishi Eclipse GS, loaded, alloy wheels, leather, moon-roof, 6-CD changer, 51K miles, $13,500. 990-2050
★ 1991 Plymouth Acclaim, white, 4-door, cruise, tilt steering wheel, am/fm radio; 60K miles, $3,500 obo. 776-4486
★ 1995 Olds Ninety-eight Regency Elite, loaded, beige w/beige leather, 83K miles, $11,700. 837-0037
★ 1993 Ford Tempo LX, 30K miles, one-owner, 4-door, 2.3L, AT, a/c, $3,950. 773-6252
★ 1996 Honda Civic, silver, 59K miles, 5-speed, a/c, upgraded Pioneer stereo, $11,000. 882-5363
★ 1990 Dodge Grand Caravan, white w/wood, 90K miles, original owner, new transmission w/12-12 warranty, $4,400 obo. 534-6166
★ 1999 Chevrolet Silverado Z71 LT, extended cab, 3rd door, leather, loaded, CD, 15K miles. 233-1294
★ 1987 Toyota Cressida, needs work, good body, beige, best offer. 883-2869
★ 1992 Acura Integra, red, 2-door hatchback, 5-speed, sunroof, a/c, sunroof, am/fm stereo cassette, cruise, $5,900. 764-2492
★ 1997 Ford Explorer XLT, 4.0L, midnight blue, every option, 52K miles. 883-9741
★ 1996 Mazda 626 LX, V6, 59K miles, loaded, white, moon roof, spoiler, $10,200 obo. 574-5098 after 5:30 p.m.
★ 1995 Saturn SL2, 85K miles, teal green, leather, all power, automatic, 4-speed, loaded, 35 mpg, $7,500. 464-9664

Free

★ Cats, lovable, litter box trained, two spayed adults, two younger cats, love children. 586-7130
★ Carpet, light brown, good condition, approx. 12'x16'. 539-8976

Wanted

★ Nintendo or Super Nintendo games. 971-0048
★ Texas Instruments Model 89 or 92 calculator, good condition w/operating manual. 586-8576
★ Used vegetable juicer in good working order, reasonable price. 881-0883

Found

★ Book bag. North side of Bldg. 4628. Call 544-4758 to identify.

Center Announcements

☛ ***Government Accountants Meet —*** The North Alabama Chapter of the Association of Government Accountants will hold its annual "Spouse Night" meeting at 5:30 p.m. Feb. 17 at the Heritage Club on Washington Street in downtown Huntsville. Christine Hinson will speaking on estate planning. Cost is $15 per person. For reservations, call Sandy Seymour at 544-0099.

☛ ***AIAA Dinner Meeting —*** The American Institute of Aeronautics and Astronautics will hold a dinner meeting at 6:30 p.m. Feb. 24 at the Von Braun Center's Orchestra Room. Cost for members is $12; students, $6; guests, $15; corporate tables for eight, $96. Speaker is Richard E. Martin. For reservations, call Richard Wilson at (256) 544-1977 or e-mail: richard.wilson@msfc.nasa.gov no later than Feb. 18.

☛ ***Step Aerobics Class Returns —*** Bench-stepping aerobics is being taught from 5-5:50 p.m. Tuesdays and Thursdays in the All Purpose Room at the Marshall Fitness Center. The class combines step with traditional aerobic movement. The stability ball and floor mats will be used for flexibility and strength training purposes. The class is free for NASA employees. Contractors are welcome, but must be accompanied by a NASA employee and pay at $2 guest fee per class.

☛ ***MESA Meets —*** The Marshall Engineers and Scientists Association (MESA) will meet at 11:30 a.m. Feb. 17 in Bldg. 4471, room C-105.

☛ ***NARFE Meets —*** The National Association of Retired Federal Employees (NARFE) will meet at 9:30 a.m. Saturday at the Senior Center on Drake Avenue. Gene Ashley will discuss federal income tax changes. For information, call 837-0382 or 881-3168.

☛ ***Superfund Public Meeting —*** A public meeting will be held from 6:30-8:30 p.m. Feb. 17 at the Huntsville/Madison County Public Library at 915 Monroe St. in Huntsville to discuss the proposed Superfund site cleanup methods.

☛ ***MARS Ballroom Dance Club —*** Walz and cha-cha lessons are being offered Feb. 14, 21, and 28 in the Parish Hall of St. Stephen's Episcopal Church at 8020 Whitesburg Dr. Intermediate classes begin at 7 p.m., and beginner at 8. For more informatin, call Linda Kenney at 544-0563.

Obituaries

Lochridge, Robert W., 79, of Huntsville, Ala., died Jan. 1. He retired from Marshall in September 1976 where he worked as an engineer. He is survived by his wife, Cecile C. Lochridge.

Wood, James E., 81, of Cullman, Ala., died Jan. 14. He retired from Marshall in June 1974 where he worked as an electronics technician. He is survived by his wife, Elizabeth W. Wood.

Katz, Harold K., 90, of Guntersville, Ala., died Jan. 16. He retired from Marshall in April 1971 where he worked as a supervisory administrative officer.

Durham, James E., 81, of Huntsville, Ala., died Jan. 21. He retired from Marshall in June 1974 where he worked as an aerospace engineering technician.

MARSHALL STAR
Vol. 40/No. 22

Marshall Space Flight Center, Alabama 35812
(256) 544-0030
http://www1.msfc.nasa.gov

The Marshall Star is published every Thursday by the Internal Relations and Communications Department at the George C. Marshall Space Flight Center, National Aeronautics and Space Administration. Contributions should be submitted no later than Monday noon to the Marshall Internal Relations and Communications Department (CD40), Bldg. 4200, room 101. Submissions should be written legibly and include the originator's name. Send electronic mail submissions to: intercom@msfc.nasa.gov The Marshall Star does not publish commercial advertising of any kind.

Manager of Internal Relations and Communications — Norman Brown
Editor — Debra Valine

U.S. Government Printing Office 1999-533-127-80097